Activities in Seattle and a look at The New Plastics Economy Initiative

Zero Waste Washington Plastics Summit
September 25, 2017
Presentation Overview

• Overview of Seattle Ordinances and announcement about plastic straws and utensils.

• Lonely Whale Foundation’s Strawless in Seattle Campaign

• Introduction to Ellen MacArthur Foundation’s New Plastics Economy Initiative

• Some of my thoughts on next steps and needs
Plastic Carryout Shopping Bags Banned

• Passed 2011, effective 2012.
• Paper bags allowed with minimum $.05 fee.
• A number of exceptions.

Green and Brown-tinted Plastic Bags Banned

• Passed 2016, effective 2017.
• Compostable bags allowed and must be correctly labeled and must be tinted green or brown.
Disposable Food Service Packaging

Prohibited

• Passed 2008

• Banned Expanded Polystyrene food service packaging effective 2009.

• Ban on disposable food service packaging effective 2010, requiring that all food service packaging be compostable or recyclable.
Collection of Food Service Packaging and Director’s Rules

• Passed 2010

• Requires food service businesses to provide recycling and compost containers for packaging

Allows for temporary one-year waivers to requirement that all food service be compostable or recyclable through Director’s Rules only under two circumstances:

• If commonly used recycling and composting technology cannot process the food service ware, or

• Suitable alternative products that meet performance and food health and safety standards are not available.
Straws and Utensils
July 1, 2018

- Temporary one-year exemptions through Director’s Rule have been provided for straws, utensils and a few other items.

- Ten years after passage of the ordinance, temporary one-year exemptions for straws and utensils will not be put in place again as of July 1, 2018.

- This effectively bans plastic straws and utensils, as they are not collected for recycling in local programs and they are not able to be recycled through local recycling facilities.

- Plastic straws and utensils will no longer be allowed to be provided by food service businesses in Seattle as of July 1, 2018.
Compostable paper or plastic straws will be allowed that meet appropriate standards/certifications and have been field tested for compostability (compost at local compost facilities).

Providing durables and providing compostable utensils and straws only on request is best.
  - This can provide significant cost savings too.

Compostable plastic straws and utensils don’t address marine plastic pollution concerns. Paper straws do.

Compostable plastic addresses problem of traditional plastic contaminating our compost at local compost facilities.
strawless in seattle
LONELY WHALE FOUNDATION
www.strawlessocean.org/seattle
#stopssucking
how do we solve this?

By having a bit of fun and showing leadership from the city that defines sustainability — Seattle.
500 MILLION PLASTIC STRAWS EVERY SINGLE DAY

I will stop sucking. @AdrianGrenier, I accept your challenge to #stopssucking. Now I'm challenging you 12s! It's going to take teamwork to save our ocean from plastic pollution. www.strawlessocean.org @Seahawks
Sucker Punch
The Ellen MacArthur Foundation
New Plastics Economy Initiative

Report - January 2016

NEW PLASTICS ECONOMY

Initiative - May 2016

Report - January 2017

https://newplasticseconomy.org/
Figure 1: Growth in Global Plastics Production 1950–2014

Note: Production from virgin fossil-based feedstock only (does not include bio-based, greenhouse gas-based or recycled feedstock).

**FIGURE 4: GLOBAL FLOWS OF PLASTIC PACKAGING MATERIALS IN 2013**

- 8% Cascaded Recycling
- 4% Process Losses
- 2% Closed-loop Recycling
- 14% Collected for Recycling
- 78 Million Tonnes (Annual Production)

- 98% Virgin Feedstock
- 14% Incineration and/or Energy Recovery
- 40% Landfilled
- 32% Leakage

1 Closed-loop recycling: Recycling of plastics into the same or similar-quality applications
2 Cascaded recycling: Recycling of plastics into other, lower-value applications

Source: Project Mainstream analysis – for details please refer to Appendix A.

FIGURE 3: PLASTIC PACKAGING MATERIAL VALUE LOSS AFTER ONE USE CYCLE

95% LOSS
(USD 80–120 billion)²

FIGURE 5: FORECAST OF PLASTICS VOLUME GROWTH, EXTERNALITIES AND OIL CONSUMPTION IN A BUSINESS-AS-USUAL SCENARIO

PLASTICS PRODUCTION

2014

311 MT

2050

1,124 MT

RATIO OF PLASTICS TO FISH IN THE OCEAN\(^1\) (BY WEIGHT)

2014

1:5

2050

>1:1

PLASTICS' SHARE OF GLOBAL OIL CONSUMPTION\(^2\)

2014

6%

2050

20%

PLASTICS' SHARE OF CARBON BUDGET\(^3\)

2014

1%

2050

15%

FIGURE 9: DISTRIBUTION OF PLASTICS HEADQUARTERS, PRODUCTION, AND LEAKAGE

**UNITED STATES & EUROPE**
- FMCG TOP 20 HQ\(^1\): 85%
- PLASTICS TOP 20 HQ\(^2\): 95%
- PLASTICS PRODUCTION\(^3\): 40%
- OCEAN LEAKAGE\(^4\): 2%

**ASIA**
- 10%
- 45%
- 82%

**REST OF WORLD**
- 5%
- 5%
- 15%
- 16%

---

1 Headquarters of the global top 20 FMCG (Fast Moving Consumer Goods) companies (measured by 2014 global net sales)
2 Headquarters of the top 20 plastics and resin manufacturers (measured by 2015 global capacity)
3 Production of plastics material volumes (excluding thermoplastics and polyurethanes)
4 Source of plastics leaked into the oceans (proportion of the total global leakage measured in million tonnes of plastic marine debris leaked per year)


FIGURE 1: THE NEW PLASTICS ECONOMY AND ITS THREE AMBITIONS

1 CREATE AN EFFECTIVE AFTER-USE PLASTICS ECONOMY

RECYCLING
RADICALLY IMPROVED ECONOMICS & QUALITY

OTHER MATERIAL STREAMS

REUSE

USE

AD AND/OR COMPOSTING

ENERGY RECOVERY

LEAKAGE

RENEWABLY SOURCED VIRGIN FEEDSTOCK

DESIGN & PRODUCTION

3 DECOUPLE PLASTICS FROM FOSSIL FEEDSTOCKS

2 DRASTICALLY REDUCE THE LEAKAGE OF PLASTICS INTO NATURAL SYSTEMS & OTHER NEGATIVE EXTERNALITIES

Source: The New Plastics Economy – Rethinking the future of plastics
World Economic Forum and Ellen MacArthur Foundation,
The New Plastics Economy – Catalysing action
The New Plastics Economy Initiative launched with Partners

Amcor
Coca-Cola
Carrefour
Contstantia Flexibles
Danone
Dow
Ideo
L’Oréal
M&S
Mars Incorporated
Natureworks
Novamont
PepsiCo
RPC bpi group
Sealed Air
Suez
Triciclos
Werner & Mertz
Veolia
... and more

London Waste & Recycling Board
NYC EDC
UNEP
Think Beyond Plastic
An action plan for the global plastic packaging value chain that contains three transition strategies

### FIGURE 3: PLASTIC PACKAGING SEGMENTS THAT NEED FUNDAMENTAL REDESIGN AND INNOVATION

<table>
<thead>
<tr>
<th>EXAMPLES</th>
<th>SHARE OF PLASTIC PACKAGING MARKET % BY WEIGHT</th>
<th>PRIORITY SOLUTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMALL-FORMAT</td>
<td>~10%</td>
<td>REDESIGN</td>
</tr>
<tr>
<td>Lids, tear-offs, caps, sachets and generally all items smaller than 40 - 70mm</td>
<td></td>
<td>packaging formats and/or delivery models (and after-use systems)</td>
</tr>
<tr>
<td>MULTI-MATERIAL</td>
<td>~13%</td>
<td>INNOVATE</td>
</tr>
<tr>
<td>Packaging with inseparable layers of different materials</td>
<td></td>
<td>in materials and reprocessing technologies</td>
</tr>
<tr>
<td>UNCOMMON MATERIALS</td>
<td>~10%</td>
<td>REPLACE</td>
</tr>
<tr>
<td>Uncommon plastic packaging materials like PVC, EPS, PS</td>
<td></td>
<td>as a priority PVC, EPS, PS by known alternatives</td>
</tr>
<tr>
<td>NUTRIENT-CONTAMINATED</td>
<td></td>
<td>SCALE UP</td>
</tr>
<tr>
<td>Coffee capsules, organic waste bags, takeaway food packaging</td>
<td></td>
<td>compostable plastics for targeted applications to help recover nutrients of packaging contents</td>
</tr>
</tbody>
</table>

**FUNDAMENTAL REDESIGN AND INNOVATION is needed for**

- >50% of plastic packaging (by no. of items),
- or >30% of plastic packaging (by weight)*

* Total is not the sum of separate categories due to overlap

**Source:** New Plastics Economy initiative analysis (see Appendix for details)

---

World Economic Forum and Ellen MacArthur Foundation,

*The New Plastics Economy – Catalysing action*

FIGURE 8: OVERVIEW OF THE NEW PLASTICS ECONOMY INITIATIVE’S FIVE BUILDING BLOCKS AND 2017 CATALYST ACTIONS

Source: New Plastics Economy initiative analysis

The $2M New Plastics Economy Innovation Prize

Launched on May 18th, The New Plastics Economy Innovation Prize invites innovators, designers, entrepreneurs and scientists to help build a circular economy for plastics by developing new materials, redesigning formats, and rethinking delivery models to eliminate plastic packaging waste. Winners will be announced at the Our Ocean conference in Malta Oct 5/6 and at the World Economic Forum in Davos, Jan 2018.
How does the work we are doing fit into the New Plastics Economy and what could we do differently?

What can we learn and apply here?
My Thoughts on Some Next Steps

- **Waste Prevention First** – eliminate unnecessary use of single-use plastics
  - Straws only by request
  - Durables instead of disposables
  - Incentives provided to encourage customers to use reusables
  - Local ordinances: bags, straws, utensils, etc. (can we harmonize?)
  - NO PREEMPTION OF LOCAL LAWS

- **Material substitution**
  - Paper straws not plastic straws
  - Compostable (tested) food service ware, not food-contaminated plastic.
  - Local ordinances: expanded polystyrene, food service packaging

- **Tweaks that matter**
  - Replace plastic caps on empty plastic bottles for recycling
My Thoughts on Some Next Steps

- Product Formulation, Design and Labeling
- Responsible and Effective Recycling
  - Need to process plastics more effectively and within U.S.
    - WRAP program for retailer take-back of plastic films (keep it clean…)
    - Plastic Recovery Facility (PRF)
      - 3-7 plastics from Material Recovery Facilities (MRF)
      - Bulk Rigid Plastics sorting and processing
      - Film wash and processing
    - Secondary Material Recovery Facility (MRF)
      - For processing larger residuals from MRFs
  - Small Residuals Processing?
    - Processing small residuals from MRFs?

- Producer Financing of Needed Facilities and Creation of Sustained Markets:
  PRF, Secondary MRF, MRF retooling and residuals processing, purchase of processed recyclables, and price support.